

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 – 113. (Cancelled)

114. (Currently amended) An isolated protein that is free of all central nervous system myelin material with which it is natively associated comprising an amino acid sequence selected from the group consisting of

the polypeptide of SEQ ID NO: 2,

~~amino acids 1-1163 of SEQ ID NO: 2,~~

amino acids 975-1163 of SEQ ID NO: 2, and

amino acids 1-171 fused to amino acids 975-1163 of SEQ ID NO: 2.

115. (Currently amended) An isolated protein that is free of all central nervous system myelin material with which it is natively associated comprising an amino acid sequence selected from the group consisting of

an amino acid sequence in which more than 90% of the amino acid residues in said sequence are identical to the amino acid residues of SEQ ID NO:2 in an alignment ~~which has 90% or greater sequence identity with SEQ ID NO: 2,~~

~~an amino acid sequence which has 90% or greater sequence identity with amino acids 1-1163 of SEQ ID NO: 2, and~~

an amino acid sequence in which more than 90% of the amino acid residues in said sequence are identical to the amino acid residues ~~which has 90% or greater sequence identity with~~ of a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acids 1-171 fused to amino acids 975-1163 of SEQ ID NO: 2,

wherein said protein has Nogo activity.

116. (Currently amended) An isolated protein that is free of all central nervous system myelin material with which it is natively associated comprising an amino acid sequence selected from the group consisting of

an amino sequence in which more than 95% of the amino acid residues in said sequence are identical to the amino acid residues of SEQ ID NO:2 in an alignment~~which has 95% or greater sequence identity with SEQ ID NO: 2,~~

~~an amino acid sequence which has 95% or greater sequence identity with amino acids 1-1163 of SEQ ID NO: 2,~~

~~an amino acid sequence which has 95% or greater sequence identity with amino acids 975-1163 of SEQ ID NO:2, and~~

an amino acid sequence in which more than 95% of the amino acid residues in said sequence are identical to the amino acid residues of~~which has 95% or greater sequence identity with~~ a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acids 1-171 fused to amino acids 975-1163 of SEQ ID NO: 2,

wherein said protein has Nogo activity.

117. (Currently amended) An isolated protein that is free of all central nervous system myelin material with which it is natively associated comprising an amino acid sequence selected from the group consisting of

the polypeptide of SEQ ID NO: 29,

~~amino acids 1-1178 of SEQ ID NO: 29,~~

~~amino acids 990-1178~~ the carboxy-terminal 188 amino acids of SEQ ID NO: 29, and

amino acids 1-172 fused to ~~amino acids 990-1178~~ the carboxy-terminal 188 amino acids of SEQ ID NO: 29.

118. (Currently amended) An isolated protein that is free of all central nervous system myelin material with which it is natively associated comprising ~~an amino acid sequence selected from the group consisting of~~

an amino sequence in which more than 90% of the amino acid residues in said sequence are identical to the amino acid residues of SEQ ID NO:29 in an alignment which has 90% or greater sequence identity with SEQ ID NO: 29,

~~an amino acid sequence which has 90% or greater sequence identity with amino acids 1-1178 of SEQ ID NO: 29, and~~

~~an amino acid sequence which has 90% or greater sequence identity with amino acids 1-172 fused to amino acids 990-1178 of SEQ ID NO: 29,~~

wherein said protein has Nogo activity.

119. (Currently amended) An isolated protein that is free of all central nervous system myelin material with which it is natively associated comprising ~~an amino acid sequence selected from the group consisting of~~

an amino sequence in which more than 95% of the amino acid residues in said sequence are identical to the amino acid residues of SEQ ID NO:29 in an alignment which has 95% or greater sequence identity with SEQ ID NO: 29,

~~an amino acid sequence which has 95% or greater sequence identity with amino acids 1-1178 of SEQ ID NO: 29,~~

~~an amino acid sequence which has 95% or greater sequence identity with amino acids 990-1178 of SEQ ID NO: 29, and~~

~~an amino acid sequence which has 95% or greater sequence identity with amino acids 1-172 fused to amino acids 990-1178 of SEQ ID NO: 29,~~

wherein said protein has Nogo activity.

120. (Previously presented) A isolated protein that is free of all central nervous system myelin material with which it is natively associated consisting of the polypeptide of SEQ ID NO: 32.

121. (Cancelled)

122. (Currently amended) ~~[[A]]~~ An isolated protein that is free of all central nervous system myelin material with which it is natively associated consisting of an amino acid sequence ~~which has 95%~~ in which more than 97% of the amino acid residues in said sequence are identical to the amino acid residues of ~~or greater sequence identity with SEQ ID~~

NO: 32 in an alignment, wherein said protein has Nogo activity wherein an antibody that binds to said protein also binds to the protein of claim 114, 115, or 116.

123. (Currently amended) The protein of any one of claims ~~114, 115, 116, 117, 118, 119, 120, 121,~~ or 122, wherein said protein is mammalian.

124. (Currently amended) The protein of any one of claims ~~114, 115, 116, 117, 118, 119, 120, 121,~~ or 122, wherein said protein is human.

125. (Currently amended) The protein of any one of claims 114, 115, 116, 117, 118, 119, 120, ~~121,~~ or 122, wherein said protein is recombinant.

126. (Currently amended) An isolated nucleic acid comprising a polynucleotide which encodes the protein of any one of claims 114, 115, 116, 117, 118, 119, 120, ~~121,~~ or 122.

127. (Currently amended) An isolated nucleic acid comprising a polynucleotide which hybridizes to the nucleic acid of ~~Claim~~ claim 126 under high stringency conditions comprising:

(a) hybridization in 6X SSC, 50 mM Tris-HCl (pH 7.5), 1 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.02% BSA, and 100 µg/ml denatured salmon sperm DNA at 65°C; and

(b) washing in a solution containing 2X SSC, 0.01% PVP, 0.01% FICOLL, and 0.01% BSA at 37°C for 1 h, and subsequently in 0.1X SSC at 50°C for 45 min;

wherein the polynucleotide encodes a protein that displays inhibitory activity in an NIH 3T3 fibroblast spreading assay.

128. (Currently amended) An expression vector comprising a nucleotide sequence which encodes the protein of any one of claims 114, 115, 116, 117, 118, 119, 120, ~~121,~~ or 122.

129. (Currently amended) ~~[[A]]~~ An *ex vivo* recombinant host cell comprising the expression vector of claims 128.

130. (Currently amended) The *ex vivo* recombinant host cell of claim 129 wherein ~~in~~ it the recombinant host cell is a prokaryotic cell.

131. (Currently amended) The *ex vivo* recombinant host cell of claim 129 wherein ~~in~~ it the recombinant host cell is a eukaryotic cell.

132. (Previously presented) A method of producing a recombinant protein comprising culturing a recombinant host cell transformed with the nucleic acid of claim 126 such that a protein encoded by said nucleic acid is expressed by said cell and recovering said expressed protein.

133. (New) The nucleic acid of claim 127, wherein the nucleic acid encodes a protein, and wherein an antibody that binds to the protein also binds to the protein of claim 114, 115, 116, 117, 118, 119, 120, or 122.

134. (New) An isolated fragment of the protein of claim 115, wherein the fragment (a) is free of central nervous system myelin material with which the protein is natively associated; and (b) comprises

(i) a first amino acid sequence in which more than 95% of the amino acid residues in said first amino acid sequence are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acid residues 172 to 974 of SEQ ID NO:2;

(ii) a first amino acid sequence in which at least 95% of the amino acid residues in said first amino acid sequence are identical to the amino acid sequence of a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acid residues 172 to 723 of SEQ ID NO:2;

(iii) a first amino acid sequence in which at least 95% of the amino acid residues of said first amino acid sequence are identical to the amino acid residues in a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acid residues 542 to 722 of SEQ ID NO:2;

(iv) a first amino acid sequence in which at least 95% of the amino acid residues in said first amino acid sequence are identical to the amino acid residues in a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acid residues 1-171 of SEQ ID NO:2;

(v) a first amino acid sequence in which at least 95% of the amino acid residues of said first amino acid sequence are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acid residues 259-542 of SEQ ID NO:2;

(vi) a first amino acid sequence in which at least 95% of the amino acid residues are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acid residues 172-259 of SEQ ID NO:2;

(vii) a first amino acid sequence in which at least 95% of the amino acid residues are identical to the amino acid residues in a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acid residues 1-974 of SEQ ID NO:2;

(viii) a first amino acid sequence in which at least 95% of the amino acid residues are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acid residues 722-974 of SEQ ID NO:2;

(ix) a first amino acid sequence in which at least 95% of the amino acid residues are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acid residues 623-640 of SEQ ID NO:2; or

(x) a first amino acid sequence in which at least 95% of the amino acid residues are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of amino acid residues 1-974 of SEQ ID NO:2.

135. (New) An isolated fragment of the protein of claim 115, wherein the fragment (a) is free of central nervous system myelin material with which the protein is natively associated; and (b) comprises

(i) an amino acid sequence consisting of amino acids 172 to 974 of SEQ ID NO:2;

(ii) an amino acid sequence consisting of amino acids 172 to 723 of SEQ ID NO:2;

(iii) an amino acid sequence consisting of amino acids 542 to 722 of SEQ ID NO:2;

(iv) an amino acid sequence consisting of amino acids 31-57 of SEQ ID NO:2;

(v) an amino acid sequence consisting of amino acids 11-191 depicted in Figure 14 (SEQ ID NO:32);

(vi) an amino acid sequence consisting of amino acids 988-1023 depicted in Figure 2a (SEQ ID NO:2);

(vii) an amino acid sequence consisting of amino acids 1090-1125 depicted in Figure 2a (SEQ ID NO:2);

(viii) an amino acid sequence consisting of amino acids 623 to 640 of SEQ ID NO:2;

- (ix) an amino acid sequence consisting of the amino acids of SEQ ID NO:43;
- (x) an amino acid sequence consisting of the amino acids of SEQ ID NO:44;
- (xi) an amino acid sequence consisting of the amino acids of SEQ ID NO:45;
- (xii) an amino acid sequence consisting of the amino acids of SEQ ID NO:46;
- (xiii) an amino acid sequence consisting of amino acids 1-171 of SEQ ID NO:2;
- (xiv) an amino acid sequence consisting of amino acids 259-542 of SEQ ID NO:2;
- (xv) an amino acid sequence consisting of amino acids 172-259 of SEQ ID NO:2;
- (xvi) an amino acid sequence consisting of amino acids 1-974 of SEQ ID NO:2;
- (xvii) an amino acid sequence consisting of amino acids 722-974 of SEQ ID NO:2;
- (xviii) an amino acid sequence consisting of amino acids 975-1162 of SEQ ID NO: 2;

or

- (xix) an amino acid sequence consisting of amino acids 1-974 of SEQ ID NO:2.

136. (New) An isolated fragment of the protein of claim 118, wherein the fragment (a) is free of central nervous system myelin material with which the protein is natively associated; and (b) comprises

(i) a first amino acid sequence in which more than 95% of the amino acid residues in said first sequence are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of the amino acid sequence of amino acids 1-131 of SEQ ID NO:29;

(ii) a first amino acid sequence in which more than 95% of the amino acid residues in said first sequence are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of the amino acid sequence of amino acids 132-939 of SEQ ID NO:29;

(iii) a first amino acid sequence in which more than 95% of the amino acid residues in said first sequence are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of the amino acid sequence of amino acids 206-501 of SEQ ID NO:29;

(iv) a first amino acid sequence in which more than 95% of the amino acid residues in said first sequence are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of the amino acid sequence of amino acids 501-680 of SEQ ID NO:29;

(v) a first amino acid sequence in which more than 95% of the amino acid residues in said first sequence are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of the amino acid sequence of amino acids 132-206 of SEQ ID NO:29;

(vi) a first amino acid sequence in which more than 95% of the amino acid residues in said first sequence are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of the amino acid sequence of amino acids 680-939 of SEQ ID NO:29; or

(vii) a first amino acid sequence in which more than 95% of the amino acid residues in said first sequence are identical to the amino acid residues of a second amino acid sequence in an alignment, said second amino acid sequence consisting of the amino acid sequence of amino acids 940-1127 of SEQ ID NO:29.

137. (New) An isolated fragment of the protein of claim 118, wherein the fragment (a) is free of central nervous system myelin material with which the protein is natively associated; and (b) comprises

(i) an amino acid sequence consisting of amino acids 1-131 of SEQ ID NO:29;

(ii) an amino acid sequence consisting of amino acids 132-939 of SEQ ID NO:29;

(iii) an amino acid sequence consisting of amino acids 206-501 of SEQ ID NO:29;

(iv) an amino acid sequence consisting of amino acids 501-680 of SEQ ID NO:29;

(v) an amino acid sequence consisting of amino acids 132-206 of SEQ ID NO:29;

(vi) an amino acid sequence consisting of amino acids 680-939 of SEQ ID NO:29; or

(vii) an amino acid sequence consisting of amino acids 940-1127 of SEQ ID NO:29.